Amendments to the Claims:

1. (Cancelled)

2. (Currently Amended) ~~System~~ The system according to claim [[1]] 3, wherein the discriminator prevents selecting fibre tract data that jointly represent a fibre tract or fibre tracts of less than a pre-determined length.

3. (Currently Amended) ~~System according to claim 1,~~ A system for detecting fibre tracts of a human or animal, comprising memory means for holding diffusion images of a region of interest of said human or animal, first processing means connected to the memory means for deriving fibre tract data from the diffusion images, and second processing means for processing the fibre tracts derived by the first processing means, wherein the first processing means includes a discriminator to select the fibre tract data to be processed by the second processing means, wherein the discriminator prevents selecting fibre tract data that jointly represent a bundle of fibre tracts of less than a pre-determined number of fibre tracts per surface area or per volume.

4. (Cancelled)

5. (Currently Amended) ~~Method~~ The method according to claim [[4]] 6, wherein a [[first]] second pre-determined criterion is selected to represent a minimum-length of the fibre tract or fibre tracts.

6. (Currently Amended) ~~Method according to claim 4,~~ A method of detecting fibre tracts of a human or animal comprising the steps of:
  processing diffusion image data of a region of interest of said human or animal to derive fibre tract data;
  processing the fibre tract data;
  at least one of storing the fibre tract data in a computer memory and display the fibre tract data on a display;

wherein processing the fibre tract data is restricted to such fibre tract data that jointly represent a fibre tract or fibre tracts that satisfy at least one pre-
10   determined criterion, and

wherein a ~~second~~ first pre-determined criterion is selected to represent a minimum number of fibre tracts per surface area or volume that are part of a bundle of fibre tracts to be processed.

7. (Currently Amended)   ~~Computer programme~~ A computer-readable medium storing a computer application program executable by a computer for detecting fibre tracts of a human or animal comprising instructions for:_

[[-]]processing diffusion image data of a region of interest of said
5   human or animal to derive fibre tract data;

[[-]]processing the fibre tract data ~~wherein processing~~ to restrict the fibre tract data ~~is restricted~~ to such fibre tract data that jointly represent ~~a fibre tract or~~ fibre tracts that satisfy a user-selectable criterion including at least one ~~pre-determined~~ of a minimum number of fiber tracts per surface area or volume criterion and a
10   minimum length criterion.

8. (New)   The computer-readable medium according to claim 7, wherein the fibre tract data satisfies the minimum number of fibre tracts per surface area or volume criterion.

9. (New)   A system for detecting fibre tracts in a human or animal, comprising:

a processor programmed to:

derive fibre tract data from diffusion images, and
5   select fibre tract data which represents fibre tracts that meet a user selectable minimum size criterion; and

a display which displays an image depicting the fibre tracts that meet a user selected size criterion.

10. (New)   The system according to claim 9, wherein the size criterion includes a selected number of fibre tracts per surface area or volume.

11. (New)   The system according to claim 9, wherein the size criterion includes fibre tracts exceeding a selected minimum length.